Long-term plate load tests in permafrost region on the Qinghai-Tibetan Plateau

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Abstract: In order to study the deformation behavior of *in-situ* warm and ice-rich permafrost with seasonally varying ground temperature, two groups of plate load tests were carried out in permafrost region on the Qinghai-Tibetan Plateau. The test results showed that the deformation of the permafrost under a constant load always represented a stepped pattern due to seasonal variation of ground temperature. Affected by the external load and the variation of the ground temperature, both settlement and frost heave occurred. In the long term, however, settlement was the primary characteristic while frost heave was much slight. The settlement rate was positively correlated with load levels, and were greatly affected by soil temperature as well as ice content in the ground. Regardless of frost heave, the deformation curves of

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